

Parent-Child Reading Interactions: A Study of Preschoolers with Language Impairment

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by

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Abstract

The goal of this research project was to better understand mothers' use of effective shared reading strategies when reading storybooks with their children with language impairment (LI). I hypothesized that the frequency with which mothers incorporated positive interaction strategies into their book-reading sessions would be associated with higher performance on children's developmental assessments. In this study, I address two aims of focus. Aim one is to characterize maternal behaviors when reading storybooks with their children diagnosed with LI. Aim two is to study the relations among maternal reading behaviors, child characteristics, and maternal characteristics. The sample used in this study consists of 55 mother-child dyads. The children were all between 4 and 5 years of age and were identified as having LI based on standardized assessment data. A 1.5 hour assessment session was conducted in each dyad's home. Study data included standardized child language and literacy assessments, home literacy and demographic questionnaires, and a videotaped shared storybook reading observation. The reading was videotaped in its entirety and later coded using the Systematic Assessment of Book Reading (SABR) to capture maternal reading behaviors. Unfortunately, descriptive analyses indicate considerable variability between maternal storybook reading behaviors and child characteristics, nor were there any significant relationships between mother reading practices and her education level. Findings suggest that mother reading practices are idiosyncratic and are not tied to their children's skills or age.

Parent-Child Reading Interactions: A Study of Preschoolers with Language Impairment

The goal of this research project was to better understand mothers' use of effective shared reading strategies when reading books with their 4-year-old children with language impairment (LI). It also examined relations among maternal reading behaviors, child characteristics, and maternal characteristics. The rationale for this study is that research has shown that shared book-reading is an important event in young children's lives because of its positive influence on children's language and literacy development (Justice & Kaderavek, 2003). Studies of typical child development have found that through frequent adult-child reading experiences, children increase their vocabulary, develop complex syntax, and acquire print awareness skills (Crowe, 2000), all of which are associated with later school achievement, particularly in the area of reading (Crowe, 2000). Research has also shown that adults make adjustments to their speech when interacting with preschool children, such as use of a shortened and simplified speech (Evans & Schmidt, 1991), which may facilitate language acquisition (Evans & Schmidt, 1991). However, it is not understood as to which aspects of language development are affected when adults make these modifications in the book-reading session (Evans & Schmidt, 1991). I would like to determine which characteristics and which reading behaviors contribute to the most effective book-reading session, which would ultimately result in increased literacy skills and, ideally, academic achievement.

Children with Language Impairment

Literacy skills are acquired at different rates when comparing typical children to children with LI. Research has shown that children with LI obtain print awareness and

other important emergent literacy skills at a rate slower than typical developing children (Ezell & Justice, 1998). Research also shows that children with limited language abilities often lack the nonverbal and verbal communicative abilities to benefit from joint book reading experiences, and consequently are at risk for later reading and written language disabilities (Crowe, 2000). However, parent-child shared storybook reading is considered a primary context for early language and literacy growth (Justice & Kaderavek, 2003), and few analyses of parent-child interaction during storybook reading have been conducted specifically for children with LI (Justice & Kaderavek, 2003). Therefore, this study focuses on children with LI to characterize their exposure to book-reading behaviors believed to facilitate early literacy skills.

Through past research, we have been able to determine that children with LI have greater difficulty acquiring literacy skills than do typical children. Therefore, we try to help these children increase the rate at which they are able to learn the skills through extra help and attention. In order to give them the needed help, we need to determine which methods work the best. In this study, I examine which characteristics of the mother reading behaviors are present that are associated with quality book-reading sessions. Research has shown that parents of children with LI reportedly adjust their reading behaviors in response to their children's language and reading behaviors, not unlike parents of typically developing children (Crowe, 2000). Interestingly, studies show that despite adult adjustments in interactions, the children's limitations in oral and literate language abilities often negatively impact the interactions during storybook reading. This may be due to the fact that children with LI have been found to disengage in reading activities and/or offer few or limited utterances during the book-reading session (Crowe,

2000). Consequently, in response to their children's reading behaviors, parents become more directive or more demanding of nonverbal and minimal verbal responses from their children (Crowe, 2000). Other research contributes by revealing that the success of the parent-child interactions may depend on the parents' ability to create a positive learning environment that supports mutual exchanges in constructing the story (Crowe, 2000). From a previous study by Crowe, we are able to determine that due to changes in parent reading behaviors, children with LI have shown changes in sentence constructions and expressive vocabularies (Crowe, 2000). Although parents may try to help their child with LI learn literacy skills through a more structured book-reading session, they may actually be pushing them away from the book-reading interaction or may be distracting them leading to a missed opportunity to learn literacy skills. The elements of an effective book-reading session for a child with LI is unknown, and instead of helping these children learn at an increased rate, society may actually be moving in the opposite direction due to a lack of knowledge.

Contributions of Storybook Reading

Storybook reading interactions are critically important to helping children develop strong language and literacy skills. Research indicates that parent-child storybook reading is among the most important activities for enhancing young children's language abilities and skills needed for literacy skills (Crowe, 2000); therefore it is crucial to determine which factors allow for the most effective book-reading session. The results of this study are important for understanding the nature of parent-child interactions within the home environment for children with LI and how these may be related to mother and child characteristics.

Book-reading sessions are expected to help a child with LI increase the rate at which s/he acquires literacy skills. Furthermore, research shows that the session can also provide children opportunities to develop new vocabulary and facilitate their semantic language abilities (Crowe, 2000). Studies show that children also increase the grammatical complexity of their utterances as they engage in storybook reading (Crowe, 2000), and that adults' use of verbal and non-verbal references to print during shared book reading resulted in a substantial increase in children's verbal interactions with print (Justice & Ezell, 2002).

If the results occur as hypothesized, our understanding of how to enable parents to help their children learn literacy techniques may be improved. This stage in life, the preschool age, is a critical learning period. Studies show that early experiences with storybooks provide more opportunities to develop emergent literacy skills considered important to later reading achievement and academic success (Crowe, 2000). Additionally, schooling systems may benefit from this research. With both home and school settings working together to build a strong foundation, the child will be better prepared for more conventional levels of literacy.

Research Questions

In this research project, I address two aims regarding parent-child reading interactions and children with language impairment. Specifically, Aim 1 is to characterize maternal reading behaviors when reading storybooks with their preschool-aged children diagnosed with LI. Aim 2 is to study the relationships among child characteristics, maternal characteristics (e.g., maternal education), and maternal reading behaviors. By

addressing these aims, I will contribute to both science and practice of early intervention for children with language impairment.

Hypotheses

The present investigation was thus undertaken to assess the parent-child reading interactions for preschoolers with LI. I hypothesized that there would be positive relations among maternal reading behaviors, as assessed using a standardized observational tool that provides a comprehensive description of parent-child reading interactions, and children's performance on developmental assessments. Research shows that storybook reading facilitates many semantic, syntactic, and pragmatic aspects of child language development (Crowe, 2000); therefore, the more frequently one of these aspects is pointed out, the quicker that child will learn about book-reading skills. For example, when a mother stops to point out the change in font during a book-reading session, it increases the child's awareness of print the next time s/he sees this again. These brief breaks in the session to point out vocabulary, abstract ideas, summarizing, and predicting skills allow the child to explore these areas that they had not observed before. Furthermore, the less frequent a child hears each of the positive categories, it is more likely that the child will not learn the reading techniques. Consequently, the book-reading session is not as effective, and it may take the child longer to develop skills in literacy.

Methods

Participants

The present research project involved a sample of 55 mother-child dyads. All participating children were 4 years of age and exhibited LI as documented by

administration of a hearing screening and standardized language and intelligence assessments. The sample was a subset of dyads who participated in a larger study.

For all of the children, English was the language spoken most often at home. Most of the children were males (70%), with 30% being female. Approximately 3.4% of the children were 4 years old, 51% were between 4 and 4.5 years old, and 45.9% were between 4.5 and 5 years old. In terms of race/ethnicity, 10.2% were African-American, 3.4% were Hispanic, 76.3% were Caucasian, 6.8% were multi-racial, and 3.4% were described as other. Interestingly, 25.9% were reported as receiving speech-language therapy, and the other 74.1% were not.

There was variability in the mothers' highest level of educational attainment; 32.3% had graduated from high school or had some high school training, 56.5% had graduated from a college or university or had partial college training, and 11.3% had graduate professional training. Approximately 31.3% of the mothers were between 22 and 30 years of age, 55.8% were between 31 and 40 years old, and 12.9% were between 41 and 30 years old. In terms of estimated total yearly income, 28.8% earned less than \$28,000, 40.2% earned between \$30,000 and \$55,000, 20.8% earned between \$60,000 and \$85,000, and 9.6% earned \$100,000 and above.

General Procedures

Mothers were recruited using a number of strategies, including dispersal of flyers through speech-language clinics and preschools. The mothers agreed to a home-visit during which the child was given a language and literacy assessment. The mothers were asked to fill out a questionnaire, and then were asked to read "Where's Rusty?" (Amery,

2003), a flip-the-flap children's book while being video recorded. The mothers were told to read as they normally would, with no further instructions.

Videotaped shared readings were later coded using the Systematic Assessment of Book Reading (SABR) (Justice, Zucker, & Sofka, 2007), a standardized observational tool that provides a comprehensive description of parent-child reading interactions. The book-reading session was coded based on time intervals for 25 specific behavioral codes. The results were then entered into on a SPSS database for analyses.

Measures

A 1.5 hour assessment session was conducted in each dyad's home. Study data included (a) standardized child language and literacy assessments, (b) home literacy and demographic questionnaires, (c) a videotaped shared storybook reading.

Assessments. The assessments administered to the children included the Test of Language Development (TOLD) (Hammill, 1997), the Phonological Awareness Literacy Screening for Preschool (PALS PreK) (Invernizzi, 2004), and the Preschool Word and Print Awareness (PWPA) (Justice, 2001). The TOLD measures abilities related to early language. It is designed to identify children at risk of having or developing problems in language. Listening and Speaking composites were derived from subtests. The PALS PreK is a phonological awareness and literacy screening designed to measure preschoolers' knowledge of important literacy fundamentals; the name writing test and the upper case test were administered. The PWPA is used to measure a child's understanding of book-reading concepts.

Questionnaires. A parent questionnaire was given at the initial home visit. Questions included in the questionnaire gathered information about maternal education,

the age of the mother, the estimated total yearly income, the age of the child, the racial or ethnic background of the child, if the child received speech-language therapy, the language that was spoken most often at the home, and the gender of the child.

Overview of the SABR Tool. Videotaped shared readings were coded using the SABR, a standardized observational tool that provides a comprehensive description of parent-child reading interactions. The SABR was created to assess which specific behaviors mothers included in book-reading sessions and at what frequency. It is intended to be used for teacher-child book-reading sessions, but it is also useful for parent-child reading interactions, as used in this research study. The SABR coding system can be categorized into 2 quality domains, 7 observation constructs, and 34 specific behavioral codes; however, for this study we only used 5 of the constructs and 25 behavior codes.

The two quality domains include instructional support and book-reading context. The instructional support domain examines the way in which the mother presents the content of the storybook to their child within the book-reading session; it examines the methods and techniques the mother uses to facilitate skills in the child's literacy, concept, and vocabulary. The book-reading context domain examines how mothers organize the book-reading contexts to encourage child involvement; language techniques used by the mother are examined in this domain.

The two quality domains are sub-divided into seven observation constructs. The instructional support domain includes four constructs: story understanding, abstract thinking, vocabulary development, and print/phonological skills. The book-reading context domain includes three constructs: language facilitation, reading session, and

emotional support. For the purpose of this research project, I will not use the reading session and emotional support constructs. The story understanding construct examines if the teacher directs attention to the concepts, characters, and illustrations of the book. The abstract thinking construct examines the teacher's use of modeling and open-ended questioning to enhance child interaction in predicting, hypothesizing, remembering, reasoning, summarizing, and inferencing about aspects of the book's content. The vocabulary development construct examines the extent to which the teacher points out words during reading. The print/phonological skills construct examines the extent to which the teacher includes references to the forms and features of print or book organization, as well as references to phonology. The language facilitation construct examines the extent to which the teacher repeats, extends, and expands children's verbal contributions to actively include their communicative participation in the reading interaction. A more detailed description of each construct can be found in Appendix A.

Within these constructs, the SABR focuses on 34 specific maternal behaviors; however, for the use of this research project I only used 25 of these behavior codes. A brief description of each behavior can be found in Appendix B. Nineteen codes of interest fall within the instructional support domain, and 6 codes fall within the book-reading context domain.

Coding. Mother behaviors coded using SABR focus on extra textual behaviors, or conversation and behaviors beyond the actual reading of the text. Actual reading of the book is not coded; only mother behaviors and talk occurring around the reading of the text are coded. Post-reading group discussion that is related to book concepts (e.g., encouraging the child to act out portions of the story; interactive/shared/modeled writing

to review or respond to the story) is coded. Furthermore, if post-reading discussion occurs and the book is not the focus of attention coding stops. The guiding principle that drives these rules is that only the book-reading session should be coded. The book-reading session includes any interaction before, during, and after reading talk.

Reliability. To ensure reliability of the coding procedures, point-by-point agreement were calculated for 6 of the 55 dyads (9.2%) by two scorers working independently; actual agreement for all 6 dyads was between 94% and 97%, indicating that the coding scheme could be reliably applied. Any disagreements were resolved through conferencing to arrive at final scores for each session.

Results

Descriptive Statistics

Each of the five constructs are examined as total values of the specific behaviors; which can be seen in Table 1. For story understanding, the mean was 6.91, the standard deviation was 5.05 and the range was 0-20. For abstract thinking, the mean was 5.96 the standard deviation was 4.65 and the range was 0-21. For vocabulary development, the mean was 18.42, the standard deviation was 9.76 and the range was 0-58. For print/phonological skills, the mean was 2.22, the standard deviation was 2.29 and the range was 0-8. Finally, for language facilitation, the mean was 14.20, the standard deviation was 7.88 and the range was 0-37. These descriptive data show that mothers were highly variable in their reading behaviors, and that some behaviors occurred at much higher rates than others.

The frequency of each of the 5 constructs was surprising; which can be seen in Table 2. Although it was expected for vocabulary development to be presented the most,

I did not hypothesize that it would be presented as many more times than the other 4 constructs. Additionally, I did not expect that the print/phonological skills construct would be presented with such little frequency. The frequency of language facilitation is also a little higher than expected, but within a more moderate range.

Statistical Analysis

Some of the elements that were expected to show correlations are presented in Table 2. The variables include the total SABR Score, the child's age, the maternal education level, the TOLD Listening standard scores, the TOLD Speaking standard scores, PALS name writing ability, PALS upper case score, and the PWPA sum. Child age and PWPA sum showed a significant correlation of .363. PALS name writing and PALS upper case score showed a significant correlation of .432. PALS name writing and PWPA sum showed a significant correlation of .492. Interestingly, the results did not show a significant correlation between child's age and the total SABR score, nor between maternal education and the total SABR Score. It was also expected to see significant correlations between child's age and each of the assessment scores, which was not the case.

Discussion

In this study I sought to answer two questions. The first question was designed to provide evidence on which maternal reading behaviors occur most often when reading storybooks with their preschool-aged children diagnosed with LI. The second question was designed to determine the relationships among child characteristics, maternal characteristics (e.g., maternal education), and maternal reading behaviors. These questions will be discussed in turn.

In discussion of the first research question, the results revealed that mothers address vocabulary development the most out of the 5 constructs examined. On average, mothers pointed out vocabulary concepts approximately 18 times during the book-reading session. Vocabulary development is a very important element to be included in a book-reading session, especially for children with LI because it will provide many opportunities for these children to further develop a larger lexicon. On the other hand, mothers addressed print/phonological skills the least; only pointing these topics out on average about 2 times during the book-reading session. The low frequency of addressing print/phonological skills is alarming because children with LI need these extra references to develop the skills necessary for literacy. Language facilitation was addressed on average 14 times throughout the book-reading session; which is encouraging because an understanding of language is essential in developing literacy skills. Story understanding was only addressed about 7 times, and abstract thinking only about 6 times during the book-reading session. Both of these elements are low in frequency, and could result in a lower rate of literacy skill development.

In discussion of the second research question, I wanted to determine the relationships among child characteristics, maternal characteristics (e.g., maternal education), and maternal reading behaviors. However, I did not find any significant correlations between these variables, and therefore, I cannot make any inferences about the cause and effect relationship between these variables based on the results of this research project. It is not possible from the results of this study to associate mothers specific reading practices with their children's abilities or maternal level of education.

Limitations

Several limitations within this study should be noted. The first limitation is that although I was not able to find significant correlations between child characteristics, maternal characteristics, and maternal reading behaviors, this may have been the result of a small sample size. A second limitation could have been the fact that the mothers may not have been familiar with the storybook, “Where’s Rusty?,” prior to reading it. If they had, maybe they would have been more comfortable with the text, pictures, and story actions and may have incorporated more questions for the child. Also, the mother could have been camera-shy or could have been more aware of book features and asked more questions because she knew she was being observed. Either of these could have led to the mother not reading to the child as she normally would have; which would have altered the results. Another limitation could be that one book was read at one time point. I was not able to observe variability in each mother’s book-reading behaviors because I was not able to assess multiple book-reading sessions with a couple of different books.

Future Research

Additional research focuses can be drawn from these findings. Due to the fact that I was not able to find significant correlations between child characteristics, maternal characteristics, and maternal reading behaviors, there is opportunity to investigate why this was the outcome of this research project. The present study provides an indication that name writing skills and both the PALS upper case score and the PWPA sum score are significantly related to each other, but I did not examine why they are so closely related.

Summary

The results of this research project indicate considerable variability between mothers with respect to storybook reading behaviors. However, there was no significant relationship between mother reading practices (total SABR score) and child characteristics (age, language, and literacy skills), nor were there any significant relationships between mother reading practices and her education level. Findings suggest that mother reading practices are idiosyncratic and are not tied to their children's skills or age. Although the results from this research project did not reveal the outcome I had hypothesized for, I was able to make some progress in gaining knowledge about children with LI. I was also able to make some inferences about language impairments that pave the way for future research in this area of study.

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Appendices

Appendix A

Brief descriptions for all seven constructs are provided below:

- 1) The **story understanding** construct examines the extent to which the teacher directs attention to the concepts, characters, and illustrations of the book. It examines teacher evoked opportunities for children to engage in conversations about story actions and to link the book content to their own lives.
- 2) The **abstract thinking** construct examines the teacher's use of modeling and open-ended questioning to enhance child interaction in predicting, hypothesizing, remembering, reasoning, summarizing, and inferencing about aspects of the book's content.
- 3) The **vocabulary development** construct examines the extent to which the teacher points out words during reading. This construct includes instances of identifying rare or sophisticated words that are elaborated on with a simple definition or discussion.
- 4) The **print/phonological skills** construct examines the extent to which the teacher incorporates verbal references (questions, directives, comments) to the forms and features of print or book organization. Additionally, explicit references to phonology, or the sounds of language (e.g., rhyme, alliteration), are examined within this construct.
- 5) The **language facilitation** construct examines the extent to which the teacher repeats, extends, and expands children's verbal contributions to enhance participation in the reading interaction. Teacher use of questions to evoke an elaborated child response are also examined within this construct.
- 6) The **reading session** construct examines the extent to which the teacher uses instructional techniques to engage students in the reading session. This construct also assesses how much instructional time is spent on procedural and behavior management issues.
- 7) The **emotional support** construct examines the extent to which the teacher demonstrates enjoyment of, and respect towards the children through laughter, responsiveness, praise, and/or physical affection. This construct also examines the extent to which the teacher accepts children's initiations and input during book reading.

(Justice, 2007)

Appendix B

Brief descriptions of all 34 specific behaviors are given below:

1. Story Understanding

- 1a. Describe Story Actions- discusses story events and/or actions depicted in illustrations or in the printed text.

- 1b. Recall Information- evokes/tests children's recall or retell of story events, actions, or story details depicted in illustrations or in printed text.
- 1c. Text-Life Connection- models or encourages children to link text content directly to personal experiences.
- 1d. Dramatize/Pretend/Imitate- encourages children to pretend or to represent an action/event/state/feeling/etc. depicted in the text.
- 2. Abstract Thinking
 - 2a. Compare and Contrast- models or asks children to compare and contrast aspects of illustrations/story events.
 - 2b. Summarize/Synthesize/Generalize/Sequence- models or asks children to make generalizations, to summarize, or to synthesize information, as well as models or questions children about sequence of events based on time or casual chains.
 - 2c. Judgments, Evaluations, and Inferences- models or asks children to make judgments, evaluations, or inferences about the text, events, characters, or illustrations.
 - 2d. Prediction- models or asks children to predict what will occur next in the text or the outcome of a particular event.
 - 2e. Reasoning, Explanation, or Analysis- models or asks children for reasoning, explanation, and analysis.
- 3. Vocabulary Development
 - 3a. Label/Locate/Notice Nouns- Provides or asks for a label/name/notice of a noun depicted in the illustrations, the printed text, or tangible objects referenced during reading.
 - 3b. Describe Characteristics of Nouns- describes characteristics of a noun or requires selective analysis of a noun.
 - 3c. Word Elaboration- asks for or provides a word elaboration through contextualization or dramatization.
 - 3d. Word Definition- asks for or provides a word definition.
 - 3e. Discuss Rare or Sophisticated Words- defines or elaborates on a rare or sophisticated word.
- 4. Print/Phonological Skills
 - 4a. Interesting Print Features- discusses interesting print-salient features in text.
 - 4b. Book and Print Conventions- discusses how books are manipulated and/or how print is organized.
 - 4c. Letter Sounds- discusses letter sounds in text.
 - 4d. Letters or Words- discusses letters or words in text.
 - 4e. Phonology/Sounds of Language- highlights the sounds of language, including rhyme, alliteration, syllables, or phonemes.
- 5. Language Facilitation
 - 5a. Repeats Child's Utterance- models language by imitating or repeating a child's utterance.
 - 5b. Expands/Extends Child's Utterance- recasts, expands, or extends a child's utterance.
 - 5c. Wh- Questions- asks wh- questions such as who, what, when, which, and where to evoke an elaborated response from the child.

- 5d. Elaborated Response Questions- asks why and how questions to evoke an elaborated response or explanation from the child.
- 5e. Peer-to-Peer Conversation- encourages children to engage in conversations with their peers.
- 5f. Recitation/Repeats Word- requests that children repeat/recite one or two words related to the text.
- 6. Reading Session
 - 6a. Productivity- the productivity of the book-reading session is halted by an utterance in which the teacher uses techniques to monitor/manage student behavior.
 - 6b. Children Touch Book- encourages students to touch or manipulate book.
 - 6c. Children Choral Read- encourages students to choral read sections of text (three or more words).
 - 6d. Visual Supports- uses a visual support (beyond the text) to enhance students' understanding of the text.
- 7. Emotional Support
 - 7a. Positive Feedback- offers students positive feedback on their input.
 - 7b. Positive Affect or Physical Affection- laughs, expresses overt enjoyment of reading session, or offers students physical affection.
 - 7c. Models Respect- models respectful language or respectfully responds to a student's signal.
 - 7d. Follows Child's Lead- follows the topic of child's spontaneous initiation with a contingent verbal response that continues the child's topic or teacher gives child an opportunity to repeat their contribution by giving the child the "floor" to speak.
 - 7e. Emotion Modeling- uses feeling words to discuss characters' feelings, to highlight emotion words in the text, or to model her/their own emotive responses to text.

(Justice, 2007)

Tables

Table 1. Maternal Reading Behaviors

	Story Understanding	Abstract thinking	Vocabulary Development	Print/ Phonological Skills	Language Facilitation	Total SABR Score
Valid	55	55	55	55	55	55
Mean	6.9	6.0	18.4	2.2	14.2	47.7
Standard Deviation	5.1	4.7	9.8	2.3	7.9	24.3
Range	0-20	0-21	0-58	0-8	0-37	0-132

Table 2. Correlations Among Study Variables

	Total SABR Score	Child's Age	Maternal Education Level	TOLD Listening Sum of Standard Scores	TOLD Speaking Sum of Standard Scores	Name Writing Ability	PALS Upper Case Score	PWPA Sum
Total SABR Score								
Child's Age	.054							
Maternal Education Level	.239	.104						
TOLD Listening Sum of Standard Scores	-.119	.031	.250					
TOLD Speaking Sum of Standard Scores	.009	-.015	.114	.206				
Name Writing Ability	.095	.060	.122	.197	.172			
PALS Upper Case Score	.264	-.067	.268	.063	.074	.423**		
PWPA Sum	.185	.363*	-.019	.034	-.091	.492**	.182	

* Correlation is significant at the 0.05 level.

** Correlation is significant at the 0.01 level